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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,973	11/21/2003	Jacob Lahijani	FL0214USNA	3574

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EXAMINER	
VETERE, ROBERT A	
ART UNIT	PAPER NUMBER
1712	

NOTIFICATION DATE	DELIVERY MODE
04/29/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-Legal.PRC@usa.dupont.com

Office Action Summary	Application No.	Applicant(s)	
	10/719,973	LAHIJANI, JACOB	
	Examiner	Art Unit	
	ROBERT VETERE	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 January 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6,8,9,12-23 and 27-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6,12-15,17-23 and 27* is/are rejected.

7)☒ Claim(s) *8-9, 16, 28-30* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Examiner's Comments

An amendment, amending claims 6, 8, 16 and 19-20, was received and entered on 1/5/2010.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 6, 12, 14-15, 17-23, and 27 rejected under 35 U.S.C. 103(a) as being unpatentable over Kazumi (JP 02-904593) in light of Buckmaster (US 4,714,756, hereinafter "Buckmaster '756").

Claims 6, 19-23 and 27: Kazumi teaches a method of rotolining the interior of a hollow steel (¶ 0013) article comprising:

adding a composition consisting essentially of tetrafluoroethylene/perfluoro(alkyl vinyl ether) copolymer ("PFA") (¶ 0016) and non-bubble promoting (¶ 0007) metal powder (¶¶ 0016-0017) to the interior of said article;

rotating said article to distribute the composition over said interior surface (¶ 0015);

heating said article to melt the copolymer particles and then cooling said article (¶ 0020).

What Kazumi does not teach is that the PFA is fluorine treatment stabilized. Buckmaster '756 teaches a method of preparing melt-processible tetrafluoroethylene perfluoro (alkyl vinyl ether) compolymer (abst.) to be used in rotomolding applications to make linings (Col. 1: 12-15). Buckmaster '756 further teaches that this PFA copolymer is treated with fluorine to stabilize the copolymer to reducing bubbling of the PFA during heat-processing (2: 33-38). This is desirable because stabilized PFA copolymers are less prone to the evolution of volatiles during further use (1:34-40). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the fluorine stabilized PFA of Buckmaster '756 in the method of Kazumi in order to have made the polymer less prone to the evolution of volatiles during further use in the rotolining process of Kazumi.

Kazumi also discloses that the metal powder constitutes 0.1 to 30 wt% of said composition. With respect to applicant's limitation of 0.3 to 1.2 wt%, in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 191 USPQ 90 (CCPA 1976). Furthermore, Kazumi teaches that the exact percentage used can affect the metal powders usefulness in preventing bubbling and it has been held that "where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 105 USPQ 233, 235 (CCPA 1955). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected and/or optimized the wt% of metal powder used, as taught by Kazumi, in order to have increased the metal powder's usefulness in preventing bubbling of the PFA.

Kazumi and Buckmaster '756 fail to explicitly teach that the stabilized PFA with metal powder promotes adhesion and that said adhesion is characterized by a peel strength of at least about 25 lb/in. However, while these references do not explicitly teach this limitation, the types of additives disclosed by the combined method of Kazumi and Buckmaster are the same as the additives used by applicant and are used in the same proportion as recommended by applicant (see ¶¶ 0016, 0018 and pp. 4-5 of Applicant's specification). Furthermore, Kazumi does explicitly disclose the desire to create a lining that adheres to the inner surface of target to be coated (see ¶¶ 0003 and 0005).

With respect to the limitation that the copolymer is bubble-free when subjected to said rotolining by itself, it is inherent that the fluorinated copolymer of Kazumi and Buckmaster meets this limitation because this combination of references teaches the same copolymer as that which is claimed by applicant.

Kazumi also teaches that the coating composition is formed after the preparation of the polymer (¶ 0016).

Claims 12 and 14: Kazumi also teaches that the metal powder is zinc and/or contains copper (¶ 0016).

Claim 15: Kazumi also teaches that the metal powder is, for example, zinc or a fine powder containing copper (see ¶ 0016). It does not teach that the additive is a combination of metals. However,

"it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." *In Re Kerkhoven*, 205 USPQ 1069, 1072 (CCPA 1980). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a combination of metals (including brass, which is a combination of copper and zinc) as the additive powder in Kazumi.

Claims 17-18: Buckmaster '756 also teaches that the stabilized PFA has less than 80 unstable end groups per 10^6 carbon atoms in the polymer and that the unstable end groups are, for example, –COOH, $-CH_2OH$, and $–CF=CF_2$ (4:21-45).

3. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kazumi and Buckmaster in light of Saito et al. (US 5,397,831).

Claim 13: Kazumi teaches all the limitations of claim 6 in light of Buckmaster '756, as discussed above. What it does not teach is that the metal powder is tin. Saito, however, teaches that the use of tin as a metal additive is well known in the art of rotolining bubble-free PFA (2:43-56). Furthermore, the selection of a known material based on its suitability for its intended use is *prima facie* obvious. *Sinclair & Carroll Co. v. Interchemical Corp.*, 65 USPQ 297 (1945). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a metal powder containing tin in the process of Kazumi because it is recognized as a metal powder which will prevent bubbling of PFA during a rotolining process, as taught by Saito.

Allowable Subject Matter

4. Claims 8-9, 16 and 28-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

Kazumi and Buckmaster fail to expressly teach that the thickness of an overcoat which consists of the stabilized copolymer. Instead, Kazumi teaches that the overcoat also comprises metal powder and explains that the metal powder is necessary to prevent bubble formation in the layer. Kazumi also

discloses that the polymer layer needs to be 0.5-1 mm in order to suppress the precipitation of the metal powder from the resin layer (¶ 0023)

Nishio et al. (US 6,287,632) teaches a method of rotolining an article using a fluoropolymer, such as PFA, and a filler (Abst., 1:10-20) to produce a bubble-free lining (2:1-5) wherein an overcoat layer of the same polymer without a filler to applied (2:22-26) to improve durability of the layer (see, e.g., 6:32-48). However, Nishio does not teach that the overcoat consists of the fluoropolymer alone.

With respect to claim 16, Rau et al. (US 4,897,439) teaches that thicknesses of 0.04 inches (approx. 1 mm) and greater are suitable for overcoat layers placed on top of PFA and filler layers (Abst., 15:61-68). However, because Kazumi teaches that a thickness of between 0.5-1 mm is necessary to prevent bubbling in the layer-–which is the intended purpose of the Kazumi method—there is no motivation to combined the teachings of Rau with the method of Kazumi.

Therefore, taken individually or in combination, the prior art fails to fairly teach or suggest that (1) the overcoat consists of said stabilized copolymer and (2) that the thickness of the overcoat is at least 1.3 mm.

Response to Arguments

6. Applicant's arguments, see applicant's arguments, filed 1/5/10, with respect to claims 8 and 16 have been fully considered and are persuasive. The rejection of these claims has been withdrawn.

7. Applicant's arguments filed 1/5/10 have been fully considered but they are not persuasive.

Applicants first argue that there is no motivation to combine Kazumi and Buckmaster because Buckmaster teaches that the ease of handling comes from the granule processing rather than the fluorine treatment. This is not persuasive. Buckmaster also teaches that the fluorine treatment reduces the evolution of volatiles during further use (2:34-38).

Applicant also argues that the amount of metal powder used in the current invention is not an optimization, but rather a completely different use which is not suggested by Kazumi. This is not persuasive. Kazumi teaches that the metal powder constitutes 0.1 to 30 wt% of said composition. In the case where the claimed ranges overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976). Thus, this is not

merely a case of optimizing an amount, but also a situation where Kazumi expressly discloses the amount of metal powder claimed by applicants. Furthermore, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Applicant also argues that Kazumi discloses the desire to adhere a resin bag rather than the polymer to the hollow article. This is not persuasive. Kazumi explains that, in light of past problems with adhesion, the Kazumi method is a technique to adhere the fluororesin to the hollow article (¶ 0005).

Applicant next argues that inherency is inappropriate with respect to the limitation regarding peel strength because Buckmaster does not contribute to inherency and because the result "may occur." This is not persuasive. The combination of Buckmaster and Kazumi teach all the same materials in the composition and in the same amounts as those taught by applicants. Thus, it is inherent that the combined composition of Buckmaster and Kazumi will have the same properties as those taught by applicant. With respect to Buckmaster not contributing to the inherency argument, Buckmaster teaches that the fluorine treatment reduces the evolution of volatiles during further use. While this does not relate to the concept of adhesion, it provides a motivation for one of ordinary skill in the art to combine the teachings of Buckmaster and Kazumi thus arriving at a composition which inherently meets the peel strength limitations currently claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT VETERE whose telephone number is (571)270-1864. The examiner can normally be reached on Mon-Fri 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on 571-272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Vetere/
Examiner, Art Unit 1712

/Michael Cleveland/

Supervisory Patent Examiner, Art Unit 1712